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Climate change and global variability

5 March 2008

A significant drop in global average temperature in January 2008 has led to speculation that the Earth is experiencing a period of sustained cooling.

A brief look at the graph depicting January global average temperatures reveals large variability in our climate year-on-year, but with an underlying rise over the longer term almost certainly caused by man-made emissions of greenhouse gases.

There are a number of natural factors contributing to so-called *interannual variability*, the single most important being the El Niño Southern Oscillation or ENSO. The global climate is currently being influenced by the cold phase of this oscillation, known as La Niña.

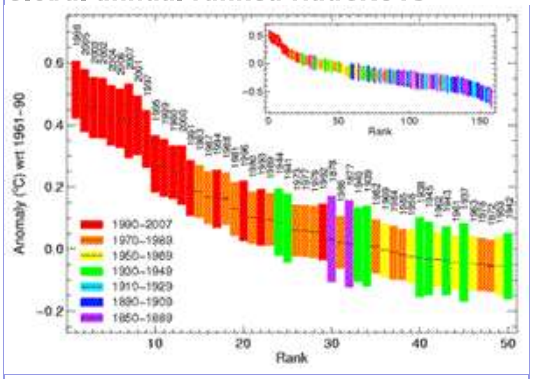
The current La Niña began to develop in early 2007, having a significant cooling effect on the global average temperature. Despite this, 2007 was one of the ten warmest years since global records began in 1850 with a temperature some 0.4 °C above average.

The La Niña has strengthened further during early 2008 and is now the strongest since 1988/89, significantly contributing to a lower January temperature in 2008 compared to recent years. In addition, global average temperature has been influenced by very cold land temperatures in parts of the northern hemisphere and extensive snow cover.

However, once La Niña declines, it is very likely that renewed warming will occur as was the case when the Earth emerged from the strong La Niña events of 1989 and 1999.

January 2008 may seem particularly cold compared to January 2007 — the warmest January on record and largely due to the warming phenomenon El Niño — but this merely demonstrates the year-to-year natural variations in our climate.

Global annual ranked HadCRUT3



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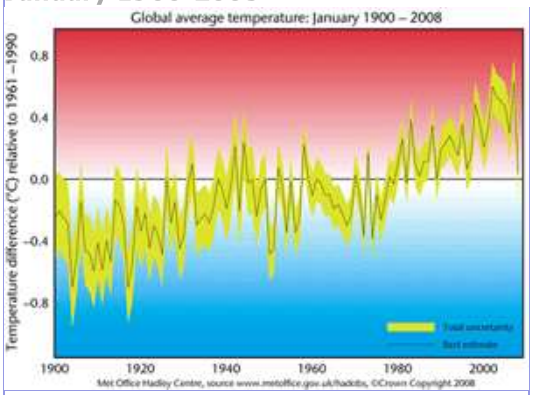
Global average temperature - January 1900-2008



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In future, while the trend in global temperatures is predicted to remain upwards, we will continue to see inherent variability of this kind.

Further information on factors influencing global temperature